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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Docket No.: 30430-CNT1
SHAO, XIE, et al.	
Serial No.: 10/660,667	Group Art Unit No.: 1773
Filed: September 11, 2003	
ANTI-REFLECTIVE COATING COMPOSITION WITH IMPROVED SPIN BOWL COMPATIBILITY	Examiner: Keehan, Christopher M.

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

DECLARATION

I, Xie Shao, declare and state as follows:

1. I am one of the inventors named on the above-referenced patent application. I am currently a Division Manager for Products Commercialization in the R & D Group with Brewer Science Inc.

2. Under my direction and control, tests were carried out to show that the compositions disclosed in U.S. Patent No. 6,207,787 to Fahey et al. (hereinafter "the Fahey et al. patent") do not yield a spin bowl compatibility test result of greater than about 90%. In these tests, the compositions set forth in Table 1 below were prepared according to the teachings of the Fahey et al. patent by mixing the ingredients together. These formulations were selected in light of comments provided to the applicants' attorney by the Examiner during a phone conference on April 15, 2003. The solids did not entirely go into solution even after sitting overnight. However, the compositions were still tested.

Table 1

INGREDIENTS	SAMPLE 1		SAMPLE 2	
	weight	% by wt.	weight	% by wt.
Benzophenone-bisphenol A copolymer (about a 1:1 weight ratio)	1 g	2.04%	3 g	13.56%
APX-K1 (organo silane adhesion promoter, available from Brewer Science Inc.)	0.5 g	1.02%	0.63 g	2.85%
2,6-Bis(4-azidobenzylidene)-cyclohexanone (aromatic azide crosslinking agent)	2.5 g	5.10%	2.5 g	11.30%
cyclohexanone (cyclic ketone solvent)	45	91.84%	16 g	72.30%

3. The resulting anti-reflective coating was then subjected to the spin bowl compatibility test described in Example 5 (page 9) of the present application. The test was carried out with several different solvents, and the percent solubility was determined as shown in the equation on page 9, lines 19-24 of the present application. The results obtained in these tests are set forth in Tables 2 and 3.

Table 2 - Spin Bowl Compatibility Test Results for Sample 1

Solvent	Thickness before strip,	Thickness after strip,	% loss	Spin Bowl Compatible
Acetone	1247	421	66	no
PGMEA	1164	470	60	no
PGME	1239	735	41	no
2-heptanone	1859	1875	-1	no
Cyclohexanone	1167	61	95	yes
Ethyl-3-ethoxypropionate	1561	1420	9	no
Ethyl lactate	1834	1818	1	no
PnP	1542	632	59	no

Table 3 - Spin Bowl Compatibility Test Results for Sample 2

Solvent	Thickness before strip,	Thickness after strip,	% loss	Spin Bowl Compatible
Acetone	1248	734	41	no
PGMEA	1269	1274	0	no
PGME	1266	1245	2	no
2-heptanone	1274	1322	-4	no
Cyclohexanone	1274	459	64	no
Ethyl-3-ethoxypropionate	1693	1749	-3	no
Ethyl lactate	1268	1275	-1	no
PnP	1272	1266	0	no

4. The average of the results for Sample 1 was 47% and for Sample 2 was 14%. As shown by these results, the compositions of the Fahey et al. patent were unable to achieve a spin

bowl compatibility test of at least about 90% in each of the tested solvents with the exception of Sample 1, which was spin bowl compatible in cyclohexanone only.

I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that wilful, false statements and the like are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and such wilful false statements may jeopardize the validity of any patents issued from the patent application.

Xie Shao

Date: 1/3/2004